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| APPLICATION NO.               | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-------------------------------|-------------|----------------------|---------------------|------------------|
| 10/029,089                    | 12/21/2001  | Andrew J. Wright     | 0325.00525          | 3437             |
| 21363                         | 7590        | 07/14/2004           | EXAMINER            |                  |
| CHRISTOPHER P. MAIORANA, P.C. |             |                      | THOMPSON, ANNETTE M |                  |
| 24840 HARPER                  |             |                      | ART UNIT            |                  |
| ST. CLAIR SHORES, MI 48080    |             |                      | PAPER NUMBER        |                  |
|                               |             |                      | 2825                |                  |

DATE MAILED: 07/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/029,089

Applicant(s)

WRIGHT ET AL.

Examiner

A. M. Thompson

Art Unit

2825

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 15 April 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-18, 20 and 21 is/are rejected.
- 7) ☒ Claim(s) 10 and 19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

Applicants' amendment to 10/029,089 has been examined. Claims 1-21 are amended.

Claims 1-21 are pending.

1. Upon reconsideration, new grounds of rejection are entered herein.

#### ***Claim Objections***

2. Claims 1, 7 and 17 are objected to because of the following informalities: Pursuant to claims 1 and 21, after "mounting", insert - -of- -. Pursuant to claims 7 and 17, "said target net" lacks sufficient antecedent basis. Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 8, 9, 18 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Pursuant to claim 8, 9, 18 and 19, these claims are incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative are between a trace group and the remaining claim limitations.

#### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Rejection of claims 1-7, 11-18, 20 and 21**

7. Claims 1-7, 11-18, 20 and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Ito et al. (Ito), U.S. Patent 2002/0152055.

8. Pursuant to claim 1, Ito discloses a method for interconnecting a plurality of dies, comprising receiving a plurality of interconnect requirements for said plurality of dies (§§ 13-15), said plurality of interconnect requirements comprising a priority order (§ 17) for each of a plurality of nets (§ 22); calculating a position and an angle for one of said plurality of dies relative to a substrate mounting of said plurality of dies; routing said plurality of nets among said plurality of dies (§§ 24-26).

9. Pursuant to claim 2, wherein said plurality of interconnect requirements comprise a priority order for each of said plurality of nets (§§ 87, 92).

10. Pursuant to claim 3, comprising the step of routing the plurality of nets one at a time in descending order (§ 87).

11. Pursuant to claim 4, further comprising the step of rotating one of said plurality of dies (§ 94).

12. Pursuant to claim 5, further comprising the step of moving one of said plurality of dies in response to said target net having a shortest possible length requirement (§§ 127-133).

13. Pursuant to claim 6, further comprising the step of rotating one of said plurality of dies in response to a target net of said plurality of nets . . . (¶¶ 95-98).

14. Pursuant to claim 7 comprising moving the dies in response to a net failing to meet at least one the interconnect requirements (¶ 69).

15. Pursuant to claims 11-18, these claims incorporate the limitations already rejected in claims 1-8. Ito additionally teaches a storage medium (¶ 63) and therefore claims 11-18 are likewise rejected based on the rejection reasoning of claims 1-8.

16. Pursuant to claim 20, this claim incorporates the limitations of claims 1-4. Ito additionally teaches an apparatus with means for receiving interconnect requirements (¶ 63) and therefore claim 20 is likewise rejected based on the rejection reasoning provided for claims 1-4, supra.

17. Pursuant to claim 21, this claim incorporates the limitation of claims 1-4 and is therefore likewise rejection based on the rejection reasoning provided for claims 104, supra.

***Allowable Subject Matter***

18. Claim 9 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

19. Claims 10 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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20. The following is a statement of reasons for the indication of allowable subject matter: In a method for interconnecting a plurality of dies, the prior art does not teach or suggest the interconnect requirements comprising a group of delays or maximum delay variations.

***Conclusion***

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please reference the PTO-892 for a complete listing.

22. Any inquiry concerning this communication or earlier communications should be directed to Examiner A.M. Thompson whose telephone number is (571) 272-1909. The Examiner can usually be reached Monday thru Friday from 8:00 a.m. to 4:30 p.m.. If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Matthew S. Smith, can be reached on (571) 272-1907.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

23. Responses to this action should be mailed to the appropriate mail stop:

Mail Stop \_\_\_\_\_

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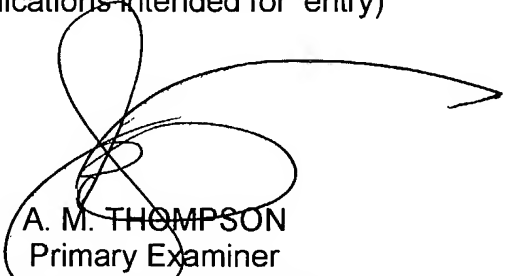
P.O. Box 1450

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Alexandria, VA 22313-1450

or faxed to:

(703) 872-9306, (for all **OFFICIAL** communications intended for entry)



A. M. THOMPSON  
Primary Examiner  
Technology Center 2800